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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/895,468	06/29/2001	Alexey S. Kabalnov	10003878 -1	6545

7590 07/17/2002

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EXAMINER
TRAN, LY T

ART UNIT	PAPER NUMBER
2853	

DATE MAILED: 07/17/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/895,468	KABALNOV ET AL.	
	Examiner	Art Unit	
	Ly T TRAN	2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-20 is/are pending in the application.

4a) Of the above claim(s) 16-20 is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-15 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Election/Restrictions

1. Claims 16-20 withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (6,412,939).

With respect to claims 1-5, Mauro et al. discloses a method for printing on an article using any types of printing process (Page 2: line 3-15) comprising:

- Applying a fluid glazing material to an article creating a coating surface on the article, the fluid glazing material contains an under-printing agent (Page 2: line 33-35)
- Applying a chromophore-containing fluid onto the coated surface, the fluid primer contacts the chromophore-containing fluid (Page 2: line 36-40)
- Firing the article (Page 2: line 41)

- The chromophore containing fluid comprise a transition metal salt (Page 2; line 77)
- The article is a ceramic (Page 2: line 19-21)

However, Mauro et al. fail to teach using an ink jet printer.

Schultz et al. teaches printing on ceramic using an ink jet printer (Column 1: line 34-40). While Mauro teaches to print on the ceramic using any types of print process, Schultz teaches printing on the ceramic using ink jet head, therefore, it would have been obvious to use ink jet head to print on the ceramic for high speed and high solution.

It would have been obvious to one having skill in the art to provide the invention of Mauro et al with using an ink jet print head as taught by Schultz et al. The motivation of doing so is to obtain a high speed and high solution.

3. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (6,412,939) as applied to claims 1-5 above, further in view of Yokoyama et al. (USPN 4,256,493).

The combination of Mauro et al and Schultz et al. fails to teach the transition metal salt is selected from the group consisting of nitrates, chlorides, acetates, chromates, citrates, sulfates and combinations thereof.

Yokoyama et al. teaches the transition metal salt is selected from the group consisting of acetates, nitrates and chlorides (Column 6: line 5-8)

It would have been obvious to one having skill in the art to provide the combined invention of Mauro et al and Schultzwith the transition metal salt is selected from the

group consisting of acetates, nitrates and chlorides as taught by Yokoyama et al. The motivation of doing so is to improve the light-resistance in the presence of a water-soluble ultraviolet absorbing agent (Yokoyama USPN 4,256,493, Column 5: line 1-4).

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (6,412,939) and Yokoyama et al. (USPN 4,256,493) as applied to claim 6 above, further in view of Daniels (USPN 4,136,076).

The combination of Mauro, Schultz and Yokoyama fails to teach the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, iron, chromium, copper, manganese, nickel, uranium, lead, gold, molybdenum, silver, tin, vanadium, cesium, neodymium and combinations thereof.

Daniels teaches the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, nickel and tin.

It would have been obvious to one having skill in the art to provide the combined invention of Mauro et al, Schultz and Yokoyama with the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, nickel and tin as taught by Daniels. The motivation of doing so is to obtain fast drying with good extended print quality (Daniels USPN 4,136,076, Column 3: line 59-60).

5. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (6,412,939) as applied to claim 1 above, further in view of Gelbart (USPN 6,283,589).

The combination of Mauro and Schultz fails to teach an additional coating selected from a group consisting of a glaze, an adhesive, a colorant, and a reflective material id applied.

Gelbart teaches an additional coating selected from a group consisting of a glaze (Column 4: line 31-35).

It would have been obvious to one having skill in the art to provide the combined invention of Mauro et al and Kimura with using an additional coating as taught by Gelbart. The motivation of doing so is to providing a protection layer therefore obtain a high quality printing.

6. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (USPN 6,412,939) and Yamazaki et al (USPN 6,106,113).

With respect to claims 9-13, Mauro et al. discloses a method for printing on an ceramic article using any types of printing process (Page 2: line 3-15) comprising:

- Applying a fluid glazing material to an article creating a coating surface on the article, the fluid glazing material contains an under-printing agent (Page 2: line 33-35)
- Applying a chromophore-containing fluid onto the coated surface, the fluid primer contacts the chromophore-containing fluid (Page 2: line 36-40)
- Firing the article (Page 2: line 41)

- The chromophore containing fluid comprise a transition metal salt (Page 2; line 77)
- The article is a ceramic (Page 2: line 19-21)

However, Mauro et al. fail to teach using ink jet print head and transfer medium.

Schultz et al. teaches printing on ceramic using an ink jet printer (Column 1: line 34-40). While Mauro teaches to print on the ceramic using any types of print process, Schultz teaches printing on the ceramic using ink jet head, therefore, it would have been obvious to use ink jet head to print on the ceramic for high speed and high solution.

Yamazaki et al. teaches using a transfer medium.

It would have been obvious to one having skill in the art to provide the invention of Mauro et al with using transfer medium as taught by Yamazaki et al.. The motivation of doing so is ink jet nozzles are free from clogging due to unintended contacts between a recording head and a recording medium or due to paper dust to assures high reliability (Yamazaki USPN 6,106,113, Column 1: line 15-20).

7. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of Schultz et al. (USPN 6,412,939) and Yamazaki et al. (USPN 6,106,113) as applied to claims 9-13 above, further in view of Yokoyama et al. (USPN 4,256,493).

The combination of Mauro et al, Schultz and Yamazaki et al. fails to teach the transition metal salt is selected from the group consisting of nitrates, chlorides, acetates, chromates, citrates, sulfates and combinations thereof.

Yokoyama et al. teaches the transition metal salt is selected from the group consisting of acetates, nitrates and chlorides (Column 6: line 5-8)

It would have been obvious to one having skill in the art to provide the combined invention of Mauro et al, Schultz and Yamazaki with the transition metal salt is selected from the group consisting of acetates, nitrates and chlorides as taught by Yokoyama et al. The motivation of doing so is to improve the light-resistance in the presence of a water-soluble ultraviolet absorbing agent (Yokoyama USPN 4,256,493, Column 5: line 1-4).

8. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauro et al. (EP 960 873) in view of in view of Schultz et al. (USPN 6,412,939) and Yamazaki et al. (USPN 6,106,113) as applied to claims 9-13 above, further in view of Daniels (USPN 4,136,076).

The combination of Mauro and Yamazaki fails to teach the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, iron, chromium, copper, manganese, nickel, uranium, lead, gold, molybdenum, silver, tin, vanadium, cesium, neodymium and combinations thereof.

Daniels teaches the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, nickel and tin.

It would have been obvious to one having skill in the art to provide the combined invention of Mauro et al and Yamazaki with the metal ion provided by the transition metal sulfate salt is selected from the group consisting of cobalt, nickel and tin as

taught by Daniels. The motivation of doing so is to obtain fast drying with good extended print quality (Daniels USPN 4,136,076, Column 3: line 59-60).

Response to Arguments

9. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new ground(s) of rejection.

The combination of Mauro et al in view of Schultz et al. teaches the claimed invention such that Mauro et al teaches the method for printing on the article using any type of printing process, Schultz et al. teaches printing on ceramic using ink jet printer. Therefore, it would have been obvious to use ink jet printer to print on the ceramic for high speed and high solution.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ly T TRAN whose telephone number is 703-308-0752. The examiner can normally be reached on M-F (7:30am-5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Barlow can be reached on 703-308-3126. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0967.

lt

July 12, 02

John Barlow
Supervisory Patent Examiner
Technology Center 2800